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YAWS

ITS ERADICATION
IN THE AMERICAS

by

Fred L. Soper, Director
Pan American Sanitary Bureau
Regional Office of the
World Health Organization

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Development of the Haitian Method

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A great demonstration in public health administration has been in the making in Haiti since 1950. The field: The eradication technique as applied to yaws. The administrative staff: The Health Department of Haiti, with international support. The beneficiaries: The rural people of Haiti and, indirectly, the millions of people in the world who still suffer from this disfiguring and crippling disease and those who might get it. For the yaws eradication program has served to orient the attack on this disease by the health departments of many nations.

Yaws is a disease of the tropics, favored by high humidity and heavy rainfall. Poverty, ignorance, over-crowding and lack of the facilities for personal cleanliness all contribute to its spread.

Yaws is a non-venereal disease caused by a treponema so closely resembling that of syphilis that the two cannot be distinguished under the microscope. Unless treated, yaws may progress through a variety of eruptions and ulcers, and in advanced stages may eat through the flesh causing loss of a finger, a toe or the nose, leaving ugly scars. Painful lesions on the palms of the hands and the soles of the feet may incapacitate victims, often preventing them from working or even from walking. The disease causes great economic loss in addition to human suffering.

Today yaws in the Americas is largely a rural disease, campaigns based on prolonged treatment with salvarsan having been concentrated for the past quarter of a century largely in towns and larger villages. The introduction of penicillin, which, in single doses, cures a large proportion of cases and renders the remaining cases non-infective for others, has facilitated treatment of entire populations.

Five years ago yaws was the most important health problem in Haiti, where nearly a million cases were estimated for the population of somewhat over three million.

In 1949 the Government of Haiti requested the collaboration of the Pan American Sanitary Bureau in planning a program for

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the complete, final solution to the yaws problem. Previous control campaigns had served to reduce the number of cases temporarily, but such campaigns had been followed by a recrudescence of the disease. Now Haiti insisted on eradication. The concept of the program for the eradication of yaws in Haiti was essentially similar to that developed in Brazil in the eradication of the yellow fever mosquito, *Aedes aegypti*, and later applied in Brazil and in Egypt to the eradication of *Anopheles gambiae*, malaria's most dangerous carrier.

The Bureau outlined a plan for the Government for the eradication of yaws with the technical collaboration of the Bureau, and with material and supplies of UNICEF. Some months later the World Health Organization came to participate in this plan under a general agreement with UNICEF and another with the Pan American Sanitary Organization. Thus it was that the Haitian method of yaws eradication was developed through the collaboration of the Government, the Pan American Sanitary Bureau, the World Health Organization and the United Nations Children's Fund. The PASB/WHO contributed technicians who advised on the organization of the campaign; UNICEF supplied needed equipment, penicillin and vehicles; the Government supplied headquarters and personnel. Teams of workers were recruited locally and intensively trained prior to the launching of the campaign in July, 1950.

The eradication of yaws, in the public health sense, may be accepted as accomplished when all transmission from ill to healthy persons ceases, that is, when new infections no longer occur. The importance of eradication as a concept for the solution of the yaws problem can be appreciated only in the light of pre-existing practice. Until only a few years ago the control of yaws was limited essentially to the dispensary or hospital treatment of individual cases. This was extremely costly and failed to reach the great mass of cases in infected rural areas.

Haiti has demonstrated that the technique used in its campaign can effectually eradicate yaws in a short period of time at a low per capita cost. The approach has been on a total population, rather than on an individual basis, with, as nearly as possible, simultaneous single injections of penicillin to every infected person in each district. Since infected persons cannot be recognized during the incubation period, all contacts have been treated. In Haiti, all persons resident in infected areas have been classified as "contacts." Fortunately the mass treatment of the rural population has been both more rapid and less expensive than any selective procedure could have been.

During the initial training and organizational stage of the eradication campaign in Haiti, the initially planned house-to-house method required for complete coverage of the rural population

could not be used. The first year's experience with temporary field clinics showed that treatment centers fail to give adequate population coverage for an eradication program. Some cases do not reach these centers because they cannot walk, while others lack the initiative to seek treatment away from home.

From October, 1951 until the end of 1954, house-to-house and family-to-family coverage were the basis of the campaign, which was conducted along a solid front, continually broadening and extending until it embraced all the infected areas. Post-treatment surveys showed that the house-to-house campaign had reached over 95 per cent of the population, and that very few infectious cases had been missed. As a matter of fact, such surveys have generally failed to reveal infection rates of more than one half of one per cent.

With the reduction in yaws to a very low level, intensive mass methods have been abandoned for a countrywide program based on the search for infected individuals, with concentrated treatment of population groups where infection persists. Haiti has been divided into areas, with a trained inspector assigned to each area, under appropriate supervision, to maintain a constant search for cases among the inhabitants of his area.

In five years, yaws has been virtually eliminated from Haiti and complete eradication shown to be feasible. Haiti has shown that there is no excuse, with the present low cost of penicillin, for the continued existence of yaws anywhere (the cost has been only 30 cents (U.S.) per person treated—20 cents to Government and 10 cents to PASB, WHO and UNICEF).

The day is not far distant when the presence of yaws will be recognized as a public disgrace, seriously reflecting on the technical standing of local and national health services.

The economic benefits to the Haitian economy resulting from the eradication of yaws, a disease that attacked a large percentage of the rural population of this predominantly agricultural country, handicapping and incapacitating many, are incalculable.

In the final analysis, the only safeguard against the re-introduction of yaws into Haiti, once it no longer exists there, is its eradication from other countries.

Fortunately, the striking success of the Haiti program has stimulated the demand for similar eradication campaigns elsewhere, campaigns, which are essential for the continued freedom of Haiti itself from reinfection.

Encouraged by the success of the campaigns in Haiti, the health administrations of Brazil and a number of the Caribbean islands have requested the collaboration of PASB/WHO and UNICEF, in the eradication of yaws. Plans for several of these eradication campaigns are now in preparation. The eventual objective of the

Bureau is, of course, the eradication of yaws from all of the Americas.

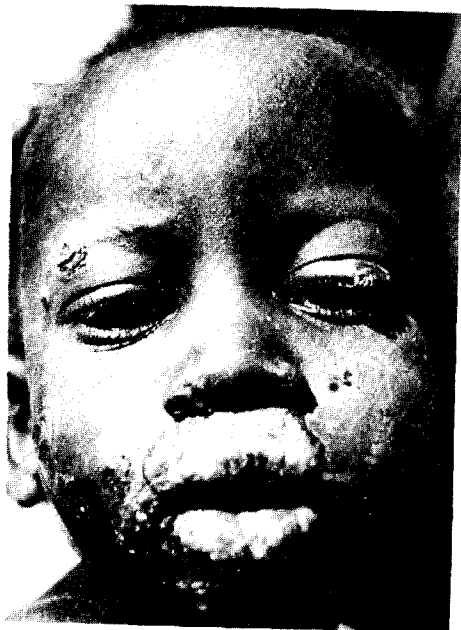
Statistics on the incidence of yaws elsewhere in the Americas are either lacking or incomplete. The incidence of yaws was higher in Haiti than in other parts of the Americas, but the disease is a serious problem in several other countries and other islands of the Caribbean, particularly Jamaica and the Lesser Antilles. Yaws extends also to the mainland in British and French Guiana and in Surinam, throughout sections of Venezuela, of western Colombia, of Ecuador and Peru, from the slopes of the Andes to the Pacific and in some scattered rural areas east of the Andes. Treatment campaigns in the contiguous infected areas of Ecuador and Colombia have for some years been coordinated under the auspices of the Institute of Inter-American Affairs, U.S. International Cooperation Administration. In Bolivia high infection rates of up to 50% are reported to have been greatly reduced by treatment during the past 5 or 6 years. A few localities of Central America are known to be infected.

Yaws is found in many parts of Brazil. It is a minor problem in the south, but a serious one throughout the north, north-east and eastern States, where, in certain areas, it is not uncommon to find up to fifteen per cent of the population affected. Available reports indicate from 350,000 to 500,000 cases in the known infected areas in the States of Pará, Maranhão, Ceará, Rio Grande do Norte, Paraíba, Pernambuco, Alagoas, Bahia, Espírito Santo, Minas Gerais and Rio de Janeiro. Although control measures have been in force for some years, the area of its distribution in Brazil seems to be on the increase, due, in part, to the recent migrations from the drought-stricken north-east to other parts of the country.

Although much remains to be done, public health history will surely register the fact that the eradication of yaws in the Americas began with the decision of the Government of Haiti in 1949 to request the Bureau to prepare a plan for the final solution of its problem.

The success of the yaws campaign in Haiti has served to stimulate interest in other health programs in the Republic, whose Government is one of the first to accept the challenge of the XIV Pan American Sanitary Conference to transform malaria control projects into a continental malaria eradication program.

Washington, D. C., May, 1956



(BEFORE)



(AFTER)

*Single penicillin treatment clears up yaws lesions
in ten days to fortnight*